

## **DELAWARE MATERIAL SPECIFICATION**

### **METAL, STRUCTURAL MS 216**

#### **1. SCOPE**

This specification covers the quality of steel and aluminum alloys.

#### **2. STRUCTURAL STEEL**

Structural steel shall conform to the requirements of ASTM Specification A-36.

High-strength low-alloy structural steel shall conform to ASTM Specifications A-242 or A-588.

Carbon steel plates of structural quality to be bent or formed cold shall conform to ASTM Specification A-283, Grade C.

Carbon steel sheets of structural quality shall conform to ASTM Specification A-570, Grade D or A-611, Grade D.

Carbon steel strip of structural quality shall conform to ASTM Specification A-570, Grade C.

#### **3. COMMERCIAL OR MERCHANT QUALITY STEEL**

Commercial or merchant quality steel shall conform to the requirements of the applicable ASTM Specification listed below:

<b><u>Product</u></b>	<b><u>ASTM Specification</u></b>	<b><u>Grade</u></b>
Carbon Steel Bars	A-575	M-195 to 1031
Carbon Steel Sheets	A-569	
Carbon Steel Strip	A-569	
Zinc-coated carbon steel sheets	A-526	

#### 4. **ALUMINUM ALLOY**

Aluminum alloy products shall conform to the requirements of the applicable ASTM specifications listed below. Unless otherwise specified, alloy 6061-T6 shall be used.

<b><u>Product Specification</u></b>	<b><u>ASTM</u></b>
Standard structural shape	B-308
Extruded structural pipe and tube	B-429
Extruded bars, rods, shapes and tube	B-221
Drawn seamless tubes	B-210
Rolled or cold-finished bars, rods and wire	B-211
Sheet and plate	B-209

#### 5. **BOLTS**

Steel bolts shall conform to the requirements of ASTM Specification A-307. If high-strength bolts are specified they shall conform to the requirements of ASTM Specification B-325.

When galvanized or zinc-coated bolts are specified, the zinc coating shall conform to the requirements of ASTM Specification A-153; except that bolts  $\frac{1}{2}$  inch or less in diameter may be coated with electrode-posited zinc or cadmium coating conforming to the requirements of ASTM Specification A-164, Type RS, or ASTM Specification A-165, Type TS, unless otherwise specified.

#### 6. **RIVETS**

Unless otherwise specified, steel rivets shall conform to the requirements of ASTM Specification A-502, Grade 1. Unless otherwise specified, aluminum alloy rivets shall be Alloy 606-T6 conforming to the requirements of ASTM Specification B-316.

7. **WELDING ELECTRODES**

Steel welding electrodes shall conform to the requirements of American Welding Society Specification AWS A5.1. "Specification for Mild Steel Covered Arc-Welding Electrodes," except that they shall be uniformly and heavily coated (not washed) and shall be of such a nature that the coating will not chip or peel while being used with the maximum amperage specified by the manufacturer.

Aluminum welding electrodes shall conform to the requirements of American Welding Society specification AWS A5.10, "Specification for Aluminum and Aluminum-Alloy Welding Rods and Bare Electrodes."